

MANUFACTURING EXTENSION PARTNERSHIP

Success Stories from the Field

Stellar Industries Corp

Massachusetts Manufacturing Extension Partnership

Stellar Results Using Lean Principles

Client Profile:

Since 1985, Stellar Industries Corp. has been a job shop manufacturer specializing in custom designed precision metalized submounts on high thermal conductivity ceramics for laser diode submount applications. Their ability to supply customized wrap around metalizations on submounts in both thick and thin metal film areas make them unique in this field. Stellar's markets include optoelectronics, laser diode, and telecommunications industries, as well as a growing military associated customer base. All of the company's operations have been consolidated into their site in Millbury, Massachusetts, where they employ approximately 30 people.

Situation:

The drop off in the telecommunications market in early 2000 caused Stellar to experience significant price reduction pressures from its customers--a reduction in lead times could help re-gain some market share. Quality yields were at unacceptable levels; they would produce excessive overages in anticipation of fallout and not being able to fill order quantities. This resulted in absorbing the cost and "eating" the overages. Also, a team approach was lacking within the organization -- the internal supplier/customer relationship was strained. Stellar contacted the Massachusetts Manufacturing Extension Partnership (Mass MEP), a NIST MEP network affiliate, for assistance.

Solution:

Mass MEP assisted Stellar in successfully obtaining a Workforce Training Grant through the Massachusetts Department of Employee and Training to help finance a Lean Training initiative. All of Stellar's employees were trained in basic principles of lean manufacturing for job shops. A Value Stream Mapping workshop was conducted for their thin film value stream resulting in a future state map incorporating lean principles and a corresponding implementation plan. Eight kaizen implementation days were utilized for training and implementation of 5S workplace organization, cell flow, pull systems using "First In, First Out" systems, and cross training. Stellar continues to conduct kaizen events on their own as they strive to wring out more waste from their operation; a lean steering committee monitors kaizen activity.

Results:

- * Awarded Massachusetts Dept. of Employee and Training Workforce Training Grant to finance lean training initiative.
- * All employees certified in lean manufacturing, value stream mapping and kaizen implementation.
- * Improved employee communication, team work, problem solving and decision making.
- * Adopted a "go where the work is" philosophy.
- * Cross-trained employees yielded better skilled workers in multiple areas.

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- * Eliminated quality control bottleneck.
- * Reduced scrap rate for stained parts by 50 percent.
- * Increased quality yields by 20 percent.
- * Reduced Quality Control inspection hours by 80 percent.
- * Increased product velocity by 25 percent.
- * Improved work flow.
- * Achieved 100 percent on-time delivery.
- * Increased dollar output per manufacturing employee by 8 percent.

Testimonial:

"We would like to thank the Mass MEP for your excellent guidance in teaching us the Lean Manufacturing methodology here at Stellar. You have helped to simplify complex custom manufacturing processes into straightforward solutions for improving our quality and deliveries. You have also helped to meld our employees into a team focused on common goals, and you have given us the tools to continually achieve a higher standard. We have become a much more competitive company within our industry."

Ron Visser, President